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staining with its yellow mycelium the decaying wood beneath, at length disappearing in the spaces between the perithecia. Not to be confounded with *Sphaeria subiculata*, Schw., which is quite a different thing.

43. **Sphaeria** (Denudatae) **longispora,** *n. sp.*—Sparsa, ovato-conica, ostiolis minutis, leviter prominentibus, ascis cylindraceis, .005′–006′×.0004′–.0005′; sporidiis subhyalinis, linearibus, ascos subaeqantibus, utrinque acuminatis.—On decaying wood of Kalmia latifolia lying on the ground. July, 1874.

Perithecia small, dull, black, not polished, ovate or ovate-conic; ostiolum slightly prominent, minute; asci cylindric; sporidia nearly colorless, linear, nearly as long as the asci, narrowed to a slender point at each end, with a row of nuclei.

44. **Sphaeria** (Denudatae) **vetusta,** *n. sp.*—Gregaria, superficialis, cylindrico-conica; ostiolis papillaeformibus; ascis late cylindraceis, basi abrupte contractis; sporidiis monostichis, ellipticis, primo uniseptatis, mox fenestratis.—On a dead place in the trunk of a Maple tree where the bark had been rubbed off. Nov. 1874.

Gregarious, superficial, of medium size; perethecia thin, elongated conic, not polished, dull black, ostiolum depressed hemispheric, black and shining, with a large opening; asci broad, cylindric, obtuse, abruptly narrowed at base, .005′×.001′; sporidia uniseriate, obtusely and broadly elliptical, nearly colorless, uniseptate and more or less constricted at the septum when young, at length brown and fenestrate, .0009′–.001′×.0005′. The mature sporidia are not constricted.

45. **Sphaeria inflata,** *n. sp.*—Sparsa, parva, adnata, nigra, impolita, subhemispherica demum superne collapsa; ostiolo haud prominente, irregulariter pertuso; ascis late cylindraceis, .004′×.001′, subsessilibus, sporidia octo oblongo-elliptica foventibus.—On the dry exposed surface of Red Oak railroad ties. Jan.

Scattered or subgregarious, closely adnate, black, rough subhemispheric or depressed conic; ostiola not prominent, with a rather large opening; asci broad cylindric, subsessile; sporidia oblong-elliptic, crowded, dotted with transparent nuclei; hyaline, triseptate and constricted at the septa, which are more readily seen when treated with tincture of Iodine.—The surface of the perithecia and the wood adjacent is generally overspread with loose, creeping, sparingly septate threads, sending up here and there erect, closely septate branches.

Sphaeronema nigripes, Vol. VI., No. 21, is probably not distinct from *S. acerrimum*, Pk. All the foregoing, except No. 40, were collected in the vicinity of Newfield, New Jersey.

§ 145. **A new Fungus from Pennsylvania.—Pestalozzia Stevensonii,** Peck.—Pustules small, hysteriiform or pezizoid, erumpent, closely surrounded by the ruptured epidermis, black; spores fusiform, triseptate, .0007–.0008 inch long, (colored part .0005–.0006) the terminal cells hyaline, the two central ones colored, terminal bristles three or four, widely divergent; sporophores about equal in length to the spores, easily separating.

Scales of fir cones, *Abies excelsa*, Westchester, Pa. *W. C. Stevenson, Jr.*

The species differs from *P. Guepini* in habit and in the fewer septa of the spores. This latter feature and the rather long bristles will also separate it from *P. funerea*. I have dedicated the species to its discoverer. CHARLES H. PECK.

ALBANY.

§ 146. **Variations in Lomaria and Polypodium.**—Mr. Joseph Howell has sent to me from Oregon some speciments of *Lomaria spicant*, Desv., in which the pinnæ are very strongly serrate—almost incised. These specimens are so strikingly distinct in appearance from the normal form, in which the pinnæ are entire, as almost to justify naming them *var. serratum?*

Mr. Howell has found this form now for two seasons in succession, but as he writes that the plants last season were not nearly as strongly marked as they were the previous year, and as it is not unlikely, therefore, that they may again revert to the normal form, it may be best to await further developments before recognizing a variety. In any case, however, this interesting variation seems worthy of being placed on record.

Mr. Howell has also sent to me a specimen of Polypodium that shows how cautious we should be In admitting varieties, especially when based on the evidence of detached fronds.

In this case there are two fronds attached to the same rhizoma, and one of these fronds has entire pinnæ, while in the other the pinnæ are coarsely and deeply serrate. This latter variation is not uncommon, even to deep incisions, in the Pacific Polypodiums, those of the southern coast of California being especially prolific in such forms.

Would it not be better in all such cases, when known, to have the specific descriptions include these variations, rather than to recognize them as distinct varieties? GEO. E. DAVENPORT.

BOSTON, *February* 16, 1877.

§ 147. **On the means of protection in flowers against unwelcome visitors.**—In *Nature*, Jan. 11, Vol. XV., p. 237, is an exceedingly interesting account of a monograph by M. Kerner, of the Zoological-Botanical Society in Vienna, on this subject. We have space but to indicate the tenor of this paper, and to recommend it to the notice of those who seek in "morphological characters a biological significance." M. Kerner gives an account of the manifold forms which are of use to guard flowers against uninvited guests, wingless insects, for example, who would be of little service in conveying the pollen from one plant to another. One means of protection consists in isolation by water; sometimes collected in the axils of the leaves (from which circumstance perhaps Aquilegia gets its name); sometimes surrounding this plant, as in Polygonum amphibium. "When, however, the water has run off, and the plant is on dry ground, there develop on the leaves and stalks gland-hairs, which secrete a sticky matter, rendering the flower-bearing axis all smeary, so that access is equally forbidden to the creeping insects. If, now, a plant of Polygonum, bearing these gland hairs, be put in the water again, the trichome-tufts, with their sticky material, disappear, and the surface appears once more smooth and even." Compare Gray's Manual on the varieties, and Hall, in BULLETIN, Vol. III., p. 1.